
Testing

The following identifies the testing information for equipment associated with RPE.

Note: The RPE Diagnostic Program (LD 33) should be included in the midnight routines for any system with RPE.

Network loops

Follow these steps:

- 1 Load the RPE Diagnostic Program (LD 33) by entering **LD 33**.
- 2 Enter **LOOP L** (L is the loop number).
- 3 Response will be **OK** if no faults are detected.
- 4 Enter **SCAR L** to switch primary carriers on loop L.
- 5 Enter **LOOP L** again.

Note: Any connection memory or channel faults detected result in the affected channel being disabled. Refer to LD 30 to interpret outputs.

Telephone, consoles, and add-on modules

For 500 and 2500 telephones, SL-1 telephones, attendant consoles, and add-on modules, refer to *X11 features and services* (553-3001-305).

Emergency transfer stations and trunks

Follow these steps:

- 1 Manually invoke an emergency line transfer by operating the emergency transfer switch on the faceplate of the QPC84 card.
- 2 Perform an outgoing and incoming call to each station.

Note: If outgoing trunks are ring ground start, momentarily operate the ground start button on the 500-type telephone after lifting the receiver to get dial tone.

Transmission quality test

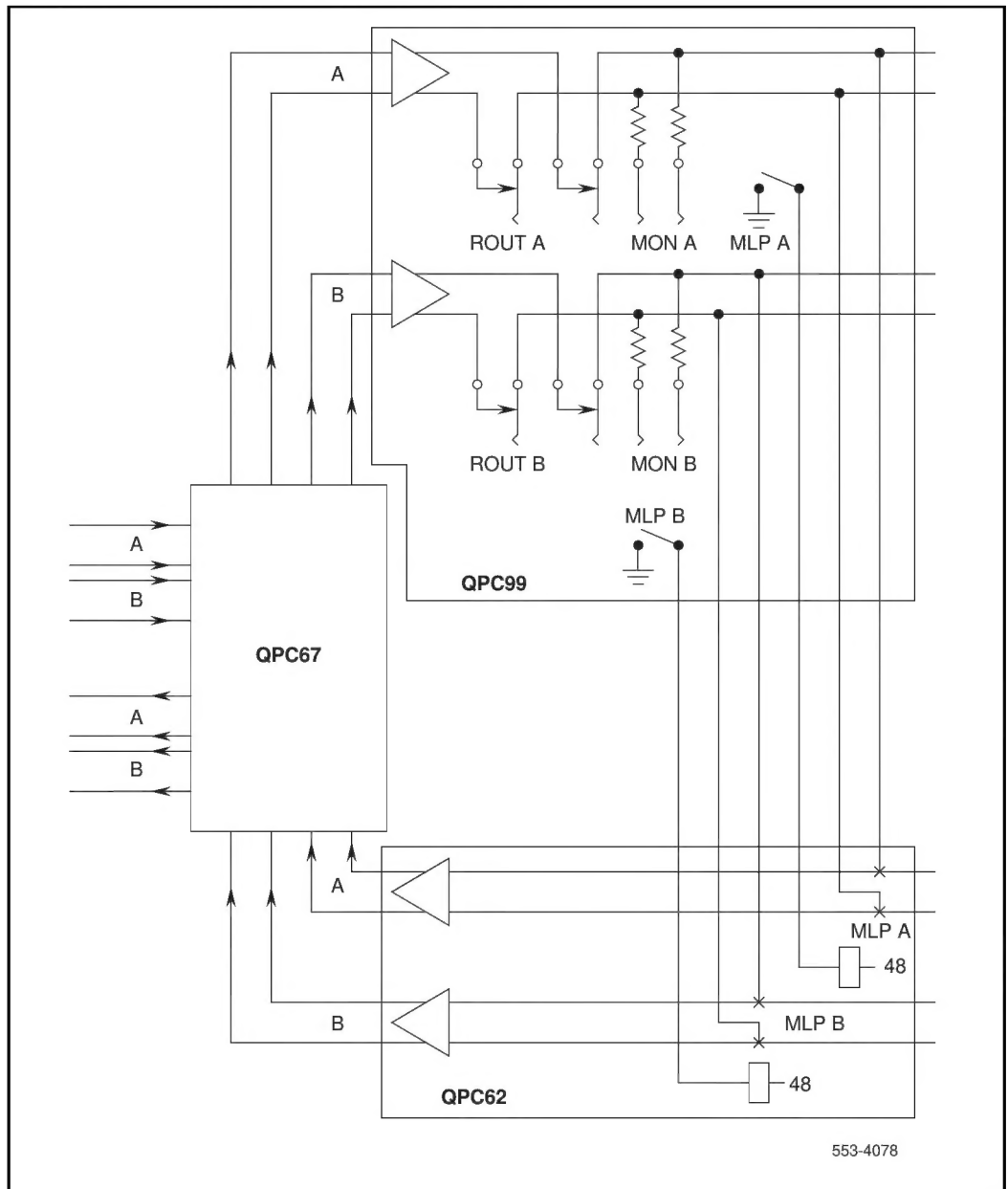
Figure 17 shows the monitoring facility built into the QPC99 Carrier Interface Card. Using these facilities, transmission quality should be tested when the installation is complete.

There are two pairs of jacks on the front of the QPC99:

- ROUT A and ROUT B are input jacks for channels A and B, respectively.
- MON A and MON B are output jacks for monitoring the regenerated signal. A test set can be connected to a MON jack at any time to test transmission quality. Connecting a test set to a MON jack does not upset an operating RPE system.

Transmission can be checked by closing the MLP switch at the local end, injecting a test signal at the ROUT jack, and monitoring the output at a remote end MON jack. This checks the transmission path in one direction. The reverse transmission path should be checked in the same way.

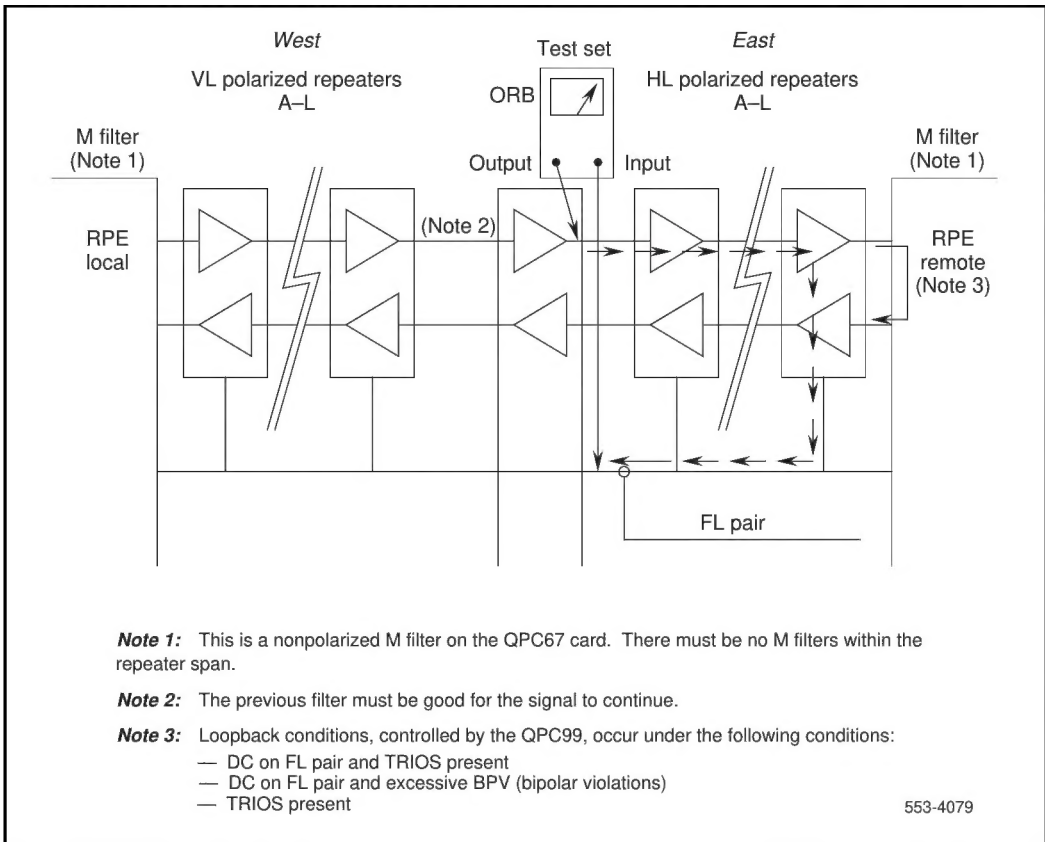
Figure 17
QPC99 maintenance jacks and looping switches



Span line fault locating

The typical repeatered line maintenance arrangement (see **Figure 18**) includes a series of FL filters and an FL cable pair installed in each span line. One FL filter is used for all repeaters installed in a single housing (with a maximum of 25 two-way repeaters per housing). A filter with a different audio center frequency is installed in each repeater housing in the span line.

Figure 18
Typical span line fault-locating arrangement



The FL filter is a narrow band selective filter centered at one of 12 audio frequencies. The output of each repeater in the housing is bridged across the input of the respective FL filter. The outputs of all filters in a span are connected to the common FL cable pair. This arrangement permits interrogating each repeater in a span from either span terminal, using a test signal with an audio-frequency component corresponding to the center frequency of the respective FL filter.

When a span line is producing excessive errors or a failure has occurred, it is necessary to locate the defective repeater. An FL test is performed using a Pulse Code Modulation (PCM) line and a repeater test telephone (Lair Seigler Sierra 415A or equivalent). To make the test, the line is removed from service and the test telephone is connected to the line at the span terminal. The output of the test telephone's transmit section is connected to the span line, while the receive section input is connected to the corresponding FL jack.

A series of test pulses with an audio-frequency component is transmitted down the line. The audio-frequency component is selected in turn to correspond to each of the FL filters in the span. This audio-frequency component appears in the output of each repeater in the span. However, a portion of this signal filters through the appropriate associated FL filter and returns to the test telephone over the FL pair. The amplitude of this test signal is measured on the dB meter and is a function of the performance of the repeater under the various test signal conditions. If a repeater has failed completely, no test signal is returned to the test telephone. Changing the audio-frequency component allows each repeater in a span to be tested until the faulty or marginal repeater is located.

Meridian 1

Remote Peripheral Equipment

Description, installation, and testing

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